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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,696	09/29/2000	John A. Higgins	00SC033US7	1493

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EXAMINER

TAKAOKA, DEAN O

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 01/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,696

Applicant(s)

HIGGINS, JOHN A.

Examiner

Dean O Takaoka

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,31,32 and 48-51 is/are rejected.
- 7) ☒ Claim(s) 2-30,33-47 and 52 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: ____

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

- i) Reference number **34**: is disclosed as a "conductive material **34**" (page 11, line 27), "conductive layer **34**" (page 12, line 7), and "conductive strips **34**" (page 12, line 32). With respect to Fig. 2, it appears reference number 30 illustrates "strips" while reference number 34 illustrates a "wall". While the material of 34 may be conductive, it does not appear that 34 is shown as a "strip".
- ii) Reference number **38**: is disclosed as a "conductive layer **38**" (page 12, line 32), and "capacitance **38**" (page 13, line 10), and "switches **38**" (page 13, line 31 and page 14, lines 2 and 10). With respect to Figs. 2, 3 and 4, it appears reference number 38 illustrates a tab or switch (Figs. 2 and 3) and capacitance in Fig. 4.

The Examiner requests the description (page 12, line 32 and page 13, line 10) changed to --switch-- for consistency; e.g. (page 12, line 32; --switch 38 comprises a conductive layer-- and (page 13, line 10; --switch 38 forms a capacitance--).

Appropriate correction is required.

Drawings

- 1) The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description
 - i) Figs. 2, 3: reference numbers **23** and **25** do not appear to be disclosed in the specification.
 - ii) Fig. 7: reference number **76** does not appear to be disclosed in the specification.

2) The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- i) Reference number **56** (pages 14 and 15) is not show in Figs. 5 and 6.
- ii) Reference number **71** (pages 16 – 18 and 20 – 22) is not show in Fig. 7.

3) The drawings are objected to because: side wall 53 (page 14, line 31) is shown in Fig. 5 as reference number **52**.

4) A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The applicant is required to provide a copy of the drawings with proposed drawing changes marked in **red ink** as required by 37 CFR 1.121(d).

Claim Objections

Claim 31 is objected to because of the following informalities: The Examiner believes the word "if" (page 34, line 3) should be --of-- (e.g. "the longitudinal axis of each [if] of said waveguides...").

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1, 31 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Stafford (U.S. Patent No. 5,504,575).

Claim 1:

Stafford (Figs. 1 – 5) shows a shutter switch for an electromagnetic wave beam (abstract, spec all where Stafford discloses parallel rays of radiation, radiation inherently electromagnetic, further where the preferred embodiment is used in a magneto optic modulator – col. 1, line 61) comprising: a plurality of waveguides (92 – Fig. 3) adapted to receive at least part of an electromagnetic beam, the waveguides being adjacent to one another (adjacent optic fibers 92 shown in Fig. 3) with their longitudinal axes aligned with the propagation of the beam, the waveguides switchable to either transmit or block transmission of their respective portions of the beam (col. 4, lines 33 – 53 where switches 93, block radiation of the optical fiber 92 or are selectively opened to allow spectrum analysis).

Claim 31:

A millimeter beam transmission system (inherent in that a optical signal is transmitted, the optical signal inherently being defined as/in millimeter wavelengths) comprising; an electromagnetic beam transmitter (the electronic beam discussed in the reasons for rejection of claim 1 above and the transmitter inherent as source for the transmitted waves thru slit 60 shown in Fig. 3, further exemplified as the source shown in Fig. 4 and 5); an electromagnetic beam receiver (detector 100 – Fig. 3); a shutter switch (shutter switch 93) positioned in the path of the beam between the transmitter

and receiver, the shutter switch comprising at least one waveguide positioned to receive at least part of the beam, the longitudinal axis of each of the waveguides aligned with the propagation of the beam (the longitudinal axis of waveguides 92 shown aligned with the propagation of the beam – Fig. 3), each of the waveguide being switchable to either transmit or block transmission of its respective portion of the beam (the transmission or blocking of the electronic beam discussed in the reasons for rejection of claim 1 above).

Claim 32:

A radiating element for generating a electromagnetic millimeter signal and a first lens (42) positioned to collimate at least a part of the millimeter signal into a beam, and a receive receiver comprises a electromagnetic receiving element and a second lens (48) positioned to focus the beam to the receiving element, the shutter switch positioned between the first and second lenses (SLM 46 – Fig. 2 including shutter switch 93 – Fig. 3).

Claim 48, 49 and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanack (U.S. Patent No. 5,526,172).

Claim 48:

Kanack shows a method of switching an electromagnetic beam (the method inherent in that Kanack shows a final product, inherently formed by a method; further where the method of the claim is generic, thus inherently being shown by the final product of Kanack; further where the generic method, contained in the preamble of the claim is given no patentable weight as the generic method of the claim breaths no life

into the claim) comprising: transmitting the beam through one or more waveguides (the transmission of an electromagnetic beam, inherent in the function of the waveguide and all switches shown by Kanack, the waveguide explicitly shown in Fig. 25a or implicitly by all switch figures in which the waveguide would be defined as the transmission lines of the respective switches); and switching the walls of the waveguide between high impedance and conductive states to control the propagation of selected modes of the beam (where Kanack discloses the functionality of the switch to adjust the impedance with respect to Fig. 18, in which the switch blocks or unblocks the optical path of the transmitted signal – col. 20, line 39 to col. 21, line 13; the high impedance formed in the walls by the deflected member).

Claims 49 and 51:

Where the electromagnetic beam is horizontally and vertically polarized and switching the sidewalls of the waveguide between high impedance and conductive states to control the propagation of the beam (where the horizontal and vertical polarizations are inherent in that the rectangular waveguide (25a) would inherently define the horizontal and vertical polarizations of the transmitted beam, where the switching the sidewalls of the waveguide between high impedance and conductive states is discussed in the reasons for rejection of claim 48 above).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanack.

Kanack shows a rectangular waveguide with switches, discussed in the reasons for rejection of claims 48, 49 and 51 above.

Kanack does not show switching the top and bottom walls.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the waveguide disclosed by Kanack by switching the top and bottom walls of the waveguide. Such a modification would have been a mere optimization of design to achieve a desired signal propagation thus suggesting the obviousness of the modification.

Allowable Subject Matter

Claims 2 – 30, 33 – 47 and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Stafford does not show the waveguides comprising four walled surfaces, high impedance on two opposing walls and low impedance on the other walls, and shorting switches on each of the walled structures (claims 2 and 33).

Kanack does not teach different frequencies of the signal (claim 52).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Athale – shows an optical switching system.

Jenkins et al. – shows an optical switching system.

Huang – shows an optical switching system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dean O Takaoka whose telephone number is (703) 305-6242. The examiner can normally be reached on 8:30a - 5:00p Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

dot
January 7, 2003



Robert Pascal
Supervisory Patent Examiner
Technology Center 2800